

Effects of the Fluent Reader Program on Reading Performance

Theresa J. Palumbo

Educational Psychology: Psychological Foundations

University of Minnesota

April 2004

Acknowledgements

I am grateful for the support of my advisor, Dr. Jay Samuels, who has helped me expand my intellectual boundaries.

I thank my husband, Jeffrey Palumbo, and my children for putting up with my divided attention while completing this project.

My parents, Donald Hill (1917-1994) and Veronica Hill (1918-), provided unconditional support throughout my life which gave me the strength to pursue my interests.

Fluent Reader Effects on Reading Performance

Abstract

The largest provider of educational software in reading had produced a new product called Fluent Reader. To test the efficacy of this product an experiment was conducted in two elementary schools and one junior high school in St. Paul and Minneapolis. Students in the experimental condition worked for ten weeks on Fluent Reader and the control condition students worked on a traditional reading method or the Accelerated Reader, which is a widely used and successfully tested program for building motivation to read. Students were pre and post tested and the gain scores on a variety of tests were used as the units of statistical analysis. Data analysis on gain scores on tests that measured speed of reading, a variable considered to be a valid and reliable indicator of fluency, showed that the students using Fluent Reader outperformed the control students using the traditional reading method or Accelerated Reader.

Table of Contents

| | |
|--|----|
| Abstract | 3 |
| Introduction | 5 |
| Literature Review | 6 |
| Methods | 16 |
| Research Design | 16 |
| Materials | 17 |
| Participants | 19 |
| Procedure | 21 |
| Results | 22 |
| Discussion | 29 |
| References | 34 |
| Appendix | |
| A Research Design | 36 |
| B Ethnicity | 39 |
| C Administration of Reading Passages | 40 |
| D Assessor Script | 42 |
| E Reading Passages | 43 |

Introduction

This study was performed to test the effectiveness of the Fluent Reader program with elementary and junior high students using an experimental design. At the elementary school level, the teachers were asked to select twelve students in their class who were lowest in reading achievement. Of these twelve students, six were randomly assigned to the Fluent Reader program and six were randomly assigned to the control group that received the Accelerated Reader program. However, at the junior high school level, students who had done poorly on the basic skills tests of reading were assigned to remedial classes. Random assignment of these students to various treatments was not possible. So instead, intact classrooms were randomly assigned either to the Fluent Reader condition or to the control condition. The control condition at the junior high school consisted of individual reading combined with instruction. Students in the elementary and junior high school were pre and post-tested on a variety of measures including Curriculum Based Measurement (CBM), STAR Test, and a test that combined timed reading and comprehension test questions.

The treatment phase of the study lasted 10 weeks beginning in March 2003 and ending May 2003. All students at the elementary level had a basic reading block, and in addition, received either time working on the Fluent Reader program or the Accelerated Reader program. At the junior high, the experimental students used the Fluent Reader program for 20 minutes, and the control groups used the TWI (Read To, Read With, Read Independently) instruction for 20 minutes.

Fluent Reader Effects on Reading Performance

There were two questions addressed in this study based on this purpose: (a) Does the Fluent Reader program improve students' reading achievement? (b) Does the Fluent Reader program improve students' reading fluency as measured by tests that one could consider to be indicators of fluency?

Literature Review

Fluency is a reading skill that is often neglected in classroom reading instruction. The Fluent Reader computer program was designed to address this instructional need. Fluent Reader is based on many methods of instruction that have proven to effective in developing fluency. The program incorporates repeated oral reading (Samuels, 1979) and modeled oral reading (Chomsky, 1978) in order to develop automaticity. Fluent Reader is designed to enhance reading fluency by supporting the development of simultaneous decoding and comprehension. The most common methods for increasing the competency with which any component skill is executed involve practice, or overlearning (LaBerge & Samuels, 1974; Perfetti, 1985). The Fluent Reader program provides the opportunities for children to easily obtain many passages to practice that are appropriate to their reading ability level, and the children are encouraged to choose passages unique to their interests. Torgeson (1986) states that computers have the capacity to deliver motivated, carefully monitored, individualized, and speed-oriented practice in concentrations far beyond those available in traditional assessment. "Because the ability to obtain meaning from print depends so strongly on the development of word recognition accuracy and reading fluency, both the latter should be regularly assessed in the classroom, permitting

Fluent Reader Effects on Reading Performance

timely and effective instructional response when difficulty or delay is apparent” (Snow, Burns, & Griffin, 1998). Fluent Reader computer software program uses modeled and repeated oral reading and provides developmental instructional advice to improve reading fluency.

Fluency Defined.

Reading fluency has been defined as the ability to read a text quickly, accurately, and with proper expression. Furthermore, fluent readers can comprehend while they are decoding the words on the page. The understanding of what is involved in reading fluency has evolved over the past thirty years. In the 1974 LaBerge and Samuels' article on automatic information processing in reading, the emphasis was on word recognition. More recently the conceptualization of fluency has extended beyond word recognition and may embrace comprehension processes as well (Thurlow & van den Broek, 1997). The final report of the National Reading Panel (2000) defines fluency as, "The fluent reader is one who can perform multiple tasks - such as word recognition and comprehension - at the same time." This is referred to as decoding plus simultaneous comprehension. A non-fluent reader can perform only one task at a time. He can either decode or comprehend, but not simultaneously. He laboriously decodes a section of the text, and then attends to the comprehension. Reading fluency characteristics include accuracy and ease in decoding, speed of reading, expression in oral reading, and simultaneous comprehension and decoding. Students who are less fluent may have difficulty understanding what they read. "The 'multitask functioning' of the fluent reader is made possible by the reduced cognitive demands needed for word recognition and

Fluent Reader Effects on Reading Performance

other reading processes, thus freeing cognitive resources for other functions, such as drawing inferences." (National Reading Panel Report, 2000).

Being a fluent, or automatic, reader should not be thought of as a stage of development in which all words can be processed quickly and easily. Even highly skilled readers may encounter uncommon, low frequency words that they cannot recognize automatically but that require some reliance on decoding strategies. For many years, beginning readers were either considered "fluent" or "not fluent". Today, fluency is viewed as a continuum. Logan (1997) states, "Automaticity should be viewed as a continuum rather than a dichotomy." A student can be fluent at the third grade instructional level, but not fluent at the fifth grade instructional level. This distinction has important implications for reading. Reading speed is one example in which a continuum of improvement can be seen. Reading speed, like other aspects of fluency or other automatic behaviors, shows gradual or incremental improvement through practice (Samuels, 1979).

Instructional strategies, based on Vygotsky's (1978, 1986) theory, place students in situations where the topics and skills are within the developmental grasp of the learner. This is called the zone of proximal development. It is important to determine students' readability levels so that readers can choose recreational books within their zone of proximal development. The zone of proximal development is the range of readability level that is above and below the student's determined instructional level. In order to have the greatest benefits for reading achievement, the child should choose books within this zone of proximal development and read extensively. To make this happen, each

Fluent Reader Effects on Reading Performance

student needs to know his zone of proximal development, and then he needs to be able to locate these books. In our study, we used two inputs to determine each student's initial readability level. These were the STAR program (described in Method's section) and the teacher's assessment. During the study, the student using Fluent Reader was allowed to move to a higher level when he could read the passage orally, quickly, and with expression. Also, he had to answer enough questions to show that he understood the text. The student can move up to a higher level upon mastering the lower level. Speed of reading, prosody of oral reading as judged by the teacher and the student, and comprehension assessment determines when a student moves to the next level. What is done with the Fluent Reader program can be compared to what happens in a sport like tennis. The beginning tennis player is placed in the "C" category and stays in this category until the skill level is such that moving the player up to the "B" level is warranted. There is not a benefit to the tennis player to play above his level on a regular basis, for he will not be practicing his skills efficiently. A century ago, investigations of expertise focused on perceptual-motor skills. For example, the *Principles of Psychology* (James, 1890) explained the importance of practice and repetition in development of skills to enable someone to perform complex acts with ease. In 1908, Huey explains this concept in *Psychology and Pedagogy of Reading*:

Perceiving being an act, it is, like all other things that we do, performed more easily with each repetition of the act. To perceive an entirely new word or other combination of strokes requires considerable time, close attention, and is likely to be imperfectly done, just as when we attempt some new combination of movements, some new trick in the gymnasium or new "serve" at tennis. In either case, repetition progressively frees the mind from attention to details, makes facile the total act, shortens the time,

Fluent Reader Effects on Reading Performance

and reduces the extent to which consciousness must concern itself with the process (p104).

Curriculum Based Measurement.

Currently, fluency is often measured by Curriculum Based Measurement (CBM). CBM primarily measures speed of reading. Stanley Deno, a Professor at the University of Minnesota, developed CBM as a means to assess students' progress on their current curriculum. He wanted to provide greater formative assessment. Placement and monitoring decisions require continuous measurement over time of a student's performance of a skill comparing results of prior efforts to current performance. "Other decisions such as screening, determining program eligibility, and setting instructional goals and objectives require peer-referenced information involving comparisons with comparable peers" (Deno, 1985). The method does not test comprehension. CBM measures the number of words read correctly in one minute. The student reads the passage orally at his instructional level while another person records the number of words read in a one-minute time, subtracting the number of words the student read incorrectly. There is a positive correlation between CBM (number of words read correctly in one minute) and comprehension, but CBM does not measure comprehension directly. CBM has been used around the country to determine if a student is a fluent reader. The problem with measuring speed of reading as an indicator of fluency is that there are many English as Second Language (ESL) students that can decode text quickly but have poor comprehension skills. In the Twin Cities, where I live, this is common in the Hmong

Fluent Reader Effects on Reading Performance

community. Reading quickly with poor comprehension is not a good indicator of reading fluency.

Automaticity and Repeated Reading.

Repeated reading is an intervention designed to support fluency development. The theoretical rationale and research Samuels described in the method of repeated reading (1979) was a natural extension of his earlier work that he did with LaBerge on a model of automatic information processing in reading (LaBerge Samuels, 1974; Samuels, 1976). The Repeated Reading technique was based on his automaticity theory, which suggests fluent readers are those who decode text automatically, leaving attention free for comprehension. Samuels looked at the way reading was taught and determined that teachers often rushed through an entire basal workbook in one school year. For the slower readers, this was difficult because the pace was too fast. Each day, was another day of frustration for these students because they could never catch up. Samuels (1979) and others (National Reading Panel Report 2000, Dowhower 1987, O'Shea, Sindelar, & O'Shea 1985 & 1987) has shown through empirical studies that the Method of Repeated Reading increases fluency by having children re-read a short meaningful passage several times until satisfactory levels of word recognition accuracy, speed, and comprehension are achieved. The initial Repeated Reading process was set up as follows. Students were required to repeatedly read a 100-word passage until they reached the criterion rate of 100 words per minute (wpm). An initial reading rate of between 35 and 50 wpm was deemed appropriate for the first reading of the passage. The passage difficulty was adjusted if the student read outside this wpm limit, or made an excessive number of

Fluent Reader Effects on Reading Performance

miscues. Students read the passage orally to an adult, then reread the passage silently. Upon completing a given number of practices, they would be asked to reread the passage orally. It was predicted that these students' accuracy and reading rates would improve until they achieved the predetermined criterion. Samuels (1979) modified the method so that passages of 50 to 200 words could be used and established a more flexible wpm criterion rate, dependent upon the learner's grade level and reading level placement. Research by O'Shea, Sindelar, and O'shea (1985) has shown that most of the gains in reading speed, word recognition error reduction, and expression in oral reading are acquired by the fourth reading. They concluded that, "Four readings appear to be optimal since, after four readings, 83% of the fluency increase between one and seven readings is achieved" (p.138). By reading the passage four times and not having to record speed and accuracy, the process is simplified. Thus, today repeated reading is often limited to four readings per passage.

Samuels et al, 1992 presented repeated reading as an effective strategy for improving not only fluency, here defined as automaticity in word recognition, but also comprehension. Automaticity theory shows that when readers' attention is freed from decoding they are allowed to focus on the content of the passage, they can then use their cognitive resources to construct meaning. At any given moment, cognitive resources available for these two tasks are limited by the availability of memory. Automaticity involves processing complex information that requires long periods of training before the behavior can be performed with little attention. This definition would include reading because it is clear that it takes a considerable amount of time and substantial practice

Fluent Reader Effects on Reading Performance

before even the fastest learners can be considered to be fluent readers (National Reading Panel Report, 2000). Samuel's initial studies were with learning disabled children, but given the success of repeated reading, it was used with both average and learning disabled children (Kuhn & Stahl, 2000). Among fluency instructional methods, procedures that emphasize repeated oral reading practice or guided repeated oral reading have been found to be effective (National Reading Panel Report, 2000).

Guided repeated oral reading is similar to repeated oral reading, but in addition provides learners with a model of fluent reading. Carol Chomsky's work (1978) also supports the benefit of repeated reading, and in addition, notes the benefits children obtain by hearing the oral reading of competent adults. Chomsky (1978) first worked on guided repeated oral reading with five eight-year-olds identified by their teacher as struggling readers. Chomsky made available on tape two dozen books ranging in reading level from second to fifth grade. The children were asked to listen to the books, then choose a portion that they wanted to practice. They then read along while listening to the story. With each subsequent passage, the student read the passage in less time. A meta-analysis by Kuhn and Stahl (2000) showed that six of nine comparisons found significant treatment effects. Kuhn and Stahl state, "This suggests that assisted reading approaches do produce significant gains in reading achievement."

Partner reading is a modified version of assisted reading (Heckelman, 1969) in which a classmate was chosen to be the lead reader. The struggling reader, known as the "assisted reader," received support and feedback from a partner. Eldredge and Quinn's (1988; Eldredge, 1990) study of assisted reading had students in the dyad classrooms read

Fluent Reader Effects on Reading Performance

with partners until they reached the point where they could read grade-level material independently. Once this level was reached, the students began reading on their own. In real terms, 27 out of the 32 struggling readers participating in the dyad condition achieved scores at or above grade level, but only 32 students (19%) in the traditional basal group did so. As a result of the intervention strategy, students were able to read with assistance material that would have been beyond their instructional level had they been working independently.

Kuhn and Stahl, 2000 compared unassisted and assisted repeated readings. Overall, the results indicated that "both forms of repeated readings are effective at improving rate, accuracy, and comprehension and that these gains transfer to similar but unpracticed passages." The Fluent Reader program, which we tested experimentally, is a repeated oral reading program in which the children listen to a competent oral reader. The children then read on their own, and they're able to compare their oral reading to the modeled reading.

Prosody.

Fries (1963), notes that in written language there is a lack of graphic signs corresponding to prosodic features. Beginning readers are required to determine the prosodic cues (tone sequences, stresses, and pauses) in written language in order to become fluent readers. Schreiber's (1979) experimental research has suggested that, for children of early school age, prosodic features (intonation, stress, and especially duration) are particularly important signals of the syntactic structure of spoken utterances. He notes that paragraph punctuation does not divide written sentences into phrases as clearly

Fluent Reader Effects on Reading Performance

and systematically as prosody does for spoken sentences. Schreiber notes that "we would predict that if the child hears a fluent reader produce the appropriate phrasing of the sentences in the passage, he will have less difficulty imposing such phrasing himself and will recognize more easily the character of the task. Dowhower (1987) examined the effects of repeated readings on second graders at the transitional stage of reading development--that is, learners who are in the process of shifting from accurate but deliberate decoding to fluent reading. Students were assessed on rate, accuracy, the number of rereadings necessary to reach a 100 wpm criterion, and their literal comprehension. The results of Dowhower's 1987 study indicate that both forms of repeated readings (with and without modeled readings) are effective at improving rate, accuracy, and comprehension and that these gains transfer to similar but unpracticed passages.

National Reading Panel Findings.

In 1997, Congress commissioned a national panel of experts to assess the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read. The panel settled on the following five topics for intensive study: Alphabeticity, Fluency, Comprehension, Teacher Education and Reading Instruction, and Computer Technology and Reading Instruction. One reason the panel selected fluency for review and analysis is that there is growing concern that children are not achieving fluency in reading. In addition, the National Reading Panel Report (2000) noted that often teachers do not recognize that word recognition accuracy is not the end point of reading instruction, that fluency represents a level of expertise beyond word recognition

Fluent Reader Effects on Reading Performance

accuracy, and that reading comprehension may be aided by fluency. The National Assessment of Educational Progress conducted a large study of fluency achievement status in American education (Pinnell et al., 1995). This study found that in a nationally representative sample of fourth graders, "44% of the students were disfluent even with grade-level stories that the students had read under supportive testing conditions." Furthermore, Pinnell's study found a close relationship between fluency and reading comprehension. Students who are low in fluency may have difficulty getting the meaning of what they read.

The results of the meta-analysis of guided oral reading procedures showed that overall, the study found a weighted effect size average of 0.41, suggesting that guided oral reading has a moderate impact upon reading achievement.

The interventions demonstrated somewhat differential effects on reading outcomes. The highest impact was on reading accuracy, with a mean effect size of 0.55; the next was on reading fluency, with a mean effect size of 0.44, and the least, but still impressive impact was on reading comprehension, where the effect size was 0.35. These data provide strong support for the supposition that instruction in guided oral reading is effective in improving reading. (National Reading Panel Report, 2000)

The conclusion of the NRP showed that a review of the literature indicates that repeated oral reading with feedback and guidance leads to meaningful reading expertise for students.

Fluent Reader Effects on Reading Performance

Methods

Research Design

At the two elementary schools, a simple experimental and control design was used. One variable was Fluent Reader and the other variable was Accelerated Reader. One school was located in St. Paul, MN and the other was located in Minneapolis, MN. Students from each class were randomly assigned to experimental (Fluent Reader) or control (Accelerated Reader).

At the junior high school level, the school was located in St. Paul, MN. A simple experimental and control design was used. One variable was Fluent Reader and the other variable was remedial reading instruction from a highly trained teacher. One class was randomly selected to be the experimental group (Fluent Reader), and one the control group (traditional reading instruction).

The Independent Variables are the treatment (Fluent Reader, Accelerated Reader or a traditional reading instruction) and grade. The Dependent Variables are 1. STAR reading test 2. Curriculum Based Measurement (CBM), 3. Total Reading Time (2 ½ minutes maximum) and 4) Comprehension. Comprehension questions followed just after the reading of the passage to test for fluency, the ability to decode and comprehend at the same time. Refer to Appendix A 1-3 for a breakdown by school and grade for the research design.

Materials

Reading Test Passage for Curriculum Based Reading . Curriculum based measurement is a technique that provides reliable and valid measures of reading ability in

Fluent Reader Effects on Reading Performance

a short time period. The technique involves having an individual student read for one minute and the dependent variable is correct word per minute reading rate. Six passages were selected from the *Standard Reading Passages*, created by Stanley Deno and colleagues (1987). Two passages designated as A or B with readability levels of third, fifth, and sixth grades were selected. Set A passages were followed by five multiple choice comprehension questions. Set B passages were not followed by comprehension questions. Each of the six passages was approximately 235 words long. Copies of the materials used can be found in Appendix E.

Quizzes. Three quizzes were created for Set A passages. Each quiz consisted of five multiple-choice comprehension questions that focused on the main points in each passage. These questions were literal comprehension questions taken directly from the text. Copies can be found in Appendix E.

Assessor Score Sheets. The examiner had a score sheet that had the same text the student was reading from, but at the end of each line the cumulative number of words was listed. Copies can be found in Appendix E. Student oral reading errors were marked on the score sheet as the student read. For students reading from set A passages, at the end of one minute the examiner marked the word the students was on, but the student was allowed to read for an additional one and a half minutes (total reading time was two and a half minutes), which was usually long enough for the student to finish reading the passage. Total reading time was recorded. When the student read from set B passages, only one minute of oral reading time was allowed. Speed of reading was used as one of

Fluent Reader Effects on Reading Performance

the dependent variables. Comprehension questions were used on set A passages as another dependent variable.

Standardized Testing and Reporting (STAR). Each student took the Renaissance Learning® Star Reading test. The STAR test is a computer-adaptive, norm-referenced reading test that provides accurate reading scores for students in grades 1 through 12. The examination takes only a few minutes and after the student completes the test it gives a "readability level" for each student which was used in several ways. For students using the Fluent Reader program, it determined the initial level of passages they would use for repeated reading. The STAR test also determined the readability level at which the students would select books from the library for the control groups using Accelerated Reader. Reliability and validity tests of STAR Reading have been performed and reported by Renaissance Learning® in literature number L0315, 2001. The test was normed in spring 1999 using a representative sample of 30,000 students. The reliability of STAR Reading was established with three reliability studies. The grade-level reliability estimates from all three studies are extremely high, ranging from 0.79 to 0.92 with most estimates greater than 0.85. An additional study (n>12,000) demonstrated the validity of STAR Reading by comparing students' scores on STAR Reading to their scores on other popular standardized tests such as the California Achievement Test and the Iowa Test of Basic Skills. The high correlation (most are above 0.70) between STAR Reading scores and scores on other tests establishes both the validity of STAR Reading for measuring reading achievement and its ability to predict performance on other tests.

Fluent Reader Effects on Reading Performance

Fluent Reader (FR). The Renaissance Learning® Fluent Reader program has the following components: modeled reading where the students listen to a fluent reader read the practice passage with good expression, repeated oral reading, self-monitoring in which students listen to their own reading and assess these recordings noting where their reading needs improvement, monitor their own daily progress, and they establish their own goal for oral reading rate for the passage they are practicing. This computer software program is designed to assist teachers to track and improve student's reading fluency.

Accelerated Reader. The Renaissance Learning® computer software for the Accelerated Reader tests the student's comprehension on books at various readability levels. With this program the student reads books independently that are at the assigned level given by the Star Reading test. When the student is finished reading the book, the student takes a computer administered comprehension quiz. Feed back is almost immediate and the student gets points based on the readability level of the book, the length of the book, and the score received on the test.

Participants

Participants for this study were elementary and junior high school students in the Minneapolis and St. Paul, Minnesota public schools. A convenience sample was used to select the schools. There were 160 participants in this study. Table 1 shows the participants by school and grade level. See Appendix B for the ethnicity of the students.

Fluent Reader Effects on Reading Performance

Table 1

Participants by School and Grade Level

| | 3 rd Grade | 4 th Grade | 6 th Grade | 7 th Grade |
|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Mpls. Elementary | 36 | 36 | | |
| St. Paul Elementary | 36 | | 24 | |
| St. Paul Junior High | | | | 34 |

The number of students at the beginning of the study is shown in the boxes. For the elementary schools, 50% were experimental and 50% were control. At each of the grade levels, 3rd, 4th, and 6th, two students moved away prior to the end of the study. At the junior high, there were 14 experimental students and 20 control students.

For the elementary schools, students were selected based upon teacher identification of the twelve poorest readers in each class. These students were then randomly assigned either to the Fluent Reader experimental program or to the Accelerated Reader control condition, six in each.

At the junior high level, thirty-four students from the seventh grade participated. One classroom was randomly assigned to the experimental and one classroom was assigned to the control condition. Fourteen students were in the experimental condition and twenty students in the control condition. In the junior high school, the experimental students used Fluent Reader and the control condition students were given instruction in reading where they used TWI (Read To, Read With, Read Independently) the teacher read to the students, or the students read with a partner, or the students read independently.

Fluent Reader Effects on Reading Performance

Procedure

Pre-Test and Post Test.

For Set A passages, we had the students read the whole passage orally with a maximum allowed reading time of 2 1/2 minutes. The examiner marked off after one minute the last word that the student was on so that word per minute rate could be determined. Word recognition errors were also noted. In addition, the student was given a multiple-choice comprehension test that was read orally to the student. For the set B passages, the regular procedure for curriculum based measurement was used. A word per minute score was given minus errors in word recognition. Lastly, we collected data from the STAR test. See Appendix B for the Administration of Reading Passages and Appendix D for Assessor Script of Student Directions.

Treatment.

All students at the elementary level had a basic reading block that lasted for one hour. During this reading block the students received balanced reading instruction. In addition to the basic reading block, the students got an additional thirty minutes during which time the students in the experimental condition worked on the Fluent Reader program and the students in the control condition worked on the Accelerated Reader program. Those students in the Fluent Reader condition worked at computers that administered almost all aspects of the reading program. The only part that the teacher had to handle was to listen to the student's oral reading of the passage when the student was finished and ready to move to another practice passage. Students in the Accelerated Reader condition read books independently in class and when finished with a book took a

Fluent Reader Effects on Reading Performance

computer administered quiz on books they read. The treatment phase of the study lasted 10 weeks, and was worked on four days per week, beginning in March 2003 and ending in May 2003. At the junior high, the experimental students used the Fluent Reader program for 20 minutes, and the control groups used the TWI (Read To, Read With, Read Independently) instruction for 20 minutes. (Fluent Reader and Accelerated Reader discussed in detail in the Materials section).

We used the same measurements that were used for the pretest to collect our posttest data. Gain scores based on growth from pretest to posttest were analyzed to determine differences in reading achievement between groups.

Results

This research examined the following question:

Does the Fluent Reader program improve students' reading fluency as measured by the following tests: Curriculum Based Measurement, total reading time for passage, comprehension, and the STAR reading test?

To address this question, an analysis was performed to determine the differences between experimental and control groups at the elementary and junior high levels separately. The unit of analysis was the gain score from pretest to posttest on three reading measures:

Fluent Reader Effects on Reading Performance

- 1) Speed of reading on Curriculum Based Measurement (CBM) tests, on A and B reading passages. CBM is measured by number of words read correctly in one-minute.
- 2) Total reading time on A passages.
- 3) Comprehension scores on A passages.
- 4) Standardized Testing and Reporting (STAR) reading tests.

Elementary School Results – Why the data was analyzed in two different ways.

The dataset was analyzed by each elementary school separately, because these two schools have different background and educational settings. However, there were no significant results found when the schools were analyzed separately. The results of the dataset for the two elementary schools, analyzed together, are provided in this report.

Standardized Testing and Reporting (STAR) provided a readability level for each student and was used as one of the dependent measures; however, more than 43% of the data did not have the STAR reading test. The missing data on the STAR test was because some of the students did not take the STAR test at the end of the ten-week study. Thus, the results will be presented in two parts - Complete Data and Data without STAR Reading Test.

Fluent Reader Effects on Reading Performance

Table 2

Sample Size for the Complete Data and Data without STAR Reading Test by Experimental and Control groups in Elementary Schools

| | Experimental | Control |
|--------------------------------|--------------|---------|
| Complete Data | 41 | 34 |
| Data without STAR Reading Test | 60 | 65 |

No significant differences were found on the pretest, as would be expected since students were randomly assigned to each group.

Elementary School - Complete Data.

The results of CBM show that the Fluent Reader experimental group had significantly higher gain scores on passages 3A ($F=6.935$, $p<.05$, $\eta^2=.13$), 3B ($F=5.974$, $p<.05$, $\eta^2=.12$), and 5A ($F=4.432$, $p<.05$, $\eta^2=.09$) than the Accelerated Reader control group. The means and standard deviations are found in Table 3.

Table 3

Gain Scores on Curriculum Based Measurement (CBM) for Grade Level Passages for the Elementary Schools - Complete Data

| Reading Passages | Experimental (FR) | | Control (AR) | |
|------------------|-------------------|-------|--------------|-------|
| | M | SD | M | SD |
| Passage 3A | 18.48 | 13.48 | 9.45 | 9.32 |
| Passage 3B | 18.44 | 16.46 | 8.14 | 11.16 |
| Passage 5A | 13.32 | 12.28 | 6.91 | 7.75 |
| N | 41 | | 34 | |

Fluent Reader Effects on Reading Performance

There were no significant differences found for CBM rates for the rest of the passages (5B, 6A, and 6B). Therefore, Fluent Reader subjects had a greater gain score on passages written at the 3rd and 5th grade level of readability but not for passages written at the 6th grade readability level. Since the subjects were the poorest readers in the 3rd, 4th, and 6th grade, it is likely that the passage written at the 6th grade readability level was just too hard for them.

There were no significant differences between experimental and control subjects on measures of total reading time of the passages, comprehension, or the STAR test.

Elementary School - Data without STAR Reading Test.

The following statistics show the significant findings for students that have completed the CBM and Total Reading Time criteria, excluding STAR measures.

Students receiving Fluent Reader significantly outperformed students receiving Accelerated Reader on the following measures: CBM scores on passages 5A and 6A. Accelerate Reader significantly outperformed Fluent Reader on Total Reading Time on passage 5A as shown in Tables 4 and 5.

Fluent Reader Effects on Reading Performance

Table 4

Gain Scores on Total Reading Time and Gain Scores on CBM for the Elementary School - Data without STAR Reading Test

| Reading Passages | Experimental (FR) | | Control (AR) | |
|--------------------------------------|-------------------|-------|--------------|-------|
| | M | SD | M | SD |
| Total Reading Time difference for 5A | 4.64 | 9.70 | -1.25 | 4.04 |
| CBM difference for 5A | 12.76 | 14.39 | 6.17 | 11.24 |
| CBM difference for 6A | 15.02 | 13.28 | 7.49 | 20.11 |
| N | 60 | | 65 | |

Note: Curriculum Based Measure (CBM) is the number of words read correctly in one minute.

Table 5

MANOVA of Gain Scores for Reading Time and Gain Scores for CBM for the Elementary School - Data without STAR Reading Test

| Reading Measures | Df | Mean Squared | F | η^2 | p |
|--------------------------------------|----|--------------|-------|----------|-------|
| Total Reading Time difference for 5A | 1 | 352.607 | 6.66* | .052 | p<.05 |
| CBM difference for 5A | 1 | 1355.816 | 8.25* | .064 | p<.05 |
| CBM difference for 6A | 1 | 1735.568 | 5.84* | .046 | p<.05 |

Note: Curriculum Based Measure (CBM) is the number of words read correctly in one minute.

* p < .05

Comprehension scores showed that for passage 5A, the Fluent Reader experimental group (M=.55, SD=1.11) significantly performed better on gain scores than the Accelerated Reader control group (M=.06, SD=1.1), (F=6.02, p<.05, η^2 =.05).

Fluent Reader Effects on Reading Performance

However, on passage 3A, the Accelerated Reader control group ($M=.3385$, $SD=.85288$) performed significantly better on gain scores than the Fluent Reader experimental group ($M=.0000$, $SD=.97333$), ($F=4.225$, $p<.05$, $\eta^2=.03$).

There were no significant findings for gain scores between Fluent Reader and Accelerated Reader for the STAR measure.

Junior High

The pretest results, as measured by MANOVA, on the STAR test showed that there were significant differences between experimental and control groups on scale score, grade equivalent (GE), and normal curve equivalent (NCE). Consequently, because of these initial differences at the outset of the study, a decision was made to use gain scores from pre-test to post-test as the unit of analysis.

The gain scores on Curriculum Based Measurement at the junior high level showed no significant differences between experimental and control subjects

An additional test that was given to the students was their total reading time for a passage. These passages were written at three different grade levels (third, fifth and sixth). The FR group had a change score ($M= -12$, $SD=10.23$) than the control group ($M= -.87$, $SD=8.40$) on reading time for the fifth grade level passage. The results show that there were significantly different performances between groups ($F=7.90$, $p<.05$, $\eta^2=.27$) on the 5th grade passage. This means that the Accelerated Reader control group improved their reading times more than the Fluent Reader control group.

Fluent Reader Effects on Reading Performance

There were no significant differences in gain scores between the experimental and control group for the comprehension measure.

The STAR test was also used as a measure of reading achievement. Table 6 and 7 show that there were statistically significant differences on Scale Score, Grade Equivalent, and Normal Curve Equivalent (NCE). The experimental group using Fluent Reader outperformed the control group using traditional reading instruction. The interpretation of this finding is that the experimental group that used the Fluent Reader actually experienced significantly greater improvement in reading achievement as measured by grade level growth than did the control group that used a traditional reading instruction.

Table 6

Gain Scores on STAR Reading Test for Scale Score, Grade Equivalent and Normal Curve Equivalent for the Junior High School

| Reading Passages | Experimental (FR) | | Control (AR) | |
|-------------------------|----------------------|--------|--------------|--------|
| | M | SD | M | SD |
| Scale Score | 190.25 | 191.43 | .6 | 171.74 |
| Grade Equivalent | 1.75 | 1.63 | -.12 | 2.02 |
| Normal Curve Equivalent | 11.96 | 13.67 | -1.47 | 13.47 |
| N | 14 | | 20 | |

Note: Fluent Reader (FR) are the experimental, Accelerated Reader (AR) are the control

Fluent Reader Effects on Reading Performance

Table 7

MANOVA for STAR Reading Test for Scale Score, Grade Equivalent and Normal Curve Equivalent for the Junior High School

| Reading Measures | Df | Mean Squared | F | η^2 | p |
|-------------------------|----|--------------|-------|----------|--------|
| Scale Score | 1 | 187654.55 | 5.89* | .27 | p=<.05 |
| Grade Equivalent | 1 | 18.25 | 5.05* | .19 | p=<.05 |
| Normal Curve Equivalent | 1 | 941.85 | 5.14* | .20 | p=<.05 |

* P < .05

Discussion

The purpose of this study was to compare reading achievement gains of students using the Fluent Reader program with students using the Accelerated Reader. The Accelerated Reader has been used for many years and evaluations that have tested its effectiveness have found it to be useful in promoting achievement. On the other hand, the Fluent Reader program was so new that its effectiveness was unknown. The Federal Government now has introduced a new standard on producers of educational materials. What the government now wants is evidence in two ways. First, it wants evidence that the methods used to teach reading are congruent with what research “has to say about reading instruction.” Second, the Government wants evidence from well conducted experimental or quasi-experimental studies that the programs in question actually work.

Fluent Reader Effects on Reading Performance

Consequently, this evaluation study was undertaken to determine if the new program actually was effective.

The study was conducted using students from one elementary school in Minneapolis and one elementary school in Saint Paul. Individual students who had been identified by their teachers as being in the bottom of their class in reading were then randomly assigned to the Fluent Reader or the Accelerated Reader condition. At the junior high school level, a separate study was conducted. There were two classes of students who had failed their graduation reading exam that were in remedial reading classes. One intact class was randomly assigned to Fluent Reader and the other received regular remedial reading by an experienced teacher.

Elementary School

At the elementary level, the data was analyzed in two formats. Some of the students did not receive the STAR test at the end of the study, so in one case, only the students with all of the data was analyzed. In a second case, the students with all dependent measures, less the students that did not receive the STAR, was analyzed. When all of the data was looked at, there were significant differences between the Fluent Reader experimental groups and the Accelerated Reader control groups on reading rates (words read correctly per minute) on passages of readability levels 3A, 3B, and 5A. These differences in reading rate favored the students who had used the Fluent Reader program. There were no significant differences found on the change scores for grade six readability level passages on the curriculum based measurement tests. One might speculate as to why significant differences were found in favor of the Fluent Reader

Fluent Reader Effects on Reading Performance

group for passages written at the 3rd and 5th grade level of readability but not for passages written at the 6th grade readability level. To understand why this may have occurred one must remember that students in the study, regardless of which treatment they were in, were the worst readers in the school. It is entirely possible that the reason there were no significant differences for passages written at the 6th grade level of readability is that the passages were just too hard for them. Thus, poor readers who were on the Fluent Reader program were able to show significant differences in gain scores for the 3rd and 5th grade passages that were at their level of readability, but not for the 6th grade.

At the present time, rate of reading is considered to be one of the indicators of fluency, so the fact that those students who worked with the Fluent Reader had made significantly greater gain scores in reading rate was an important finding. It was important because one interpretation is that these students had made greater progress in developing fluent reading skills. There is still another way to view the finding that Fluent Reader outperformed Accelerated Reader on the reading rate variable. Often in experimental work, the experimental treatment is pitted against a treatment that is not effective, so it is not surprising when the experimental treatment outperforms the control treatment. But, in this study the control treatment was Accelerated Reader, a program with a long history of successes. When the new kid on the block, the Fluent Reader, outperforms the established program, something interesting is happening.

The data was analyzed a second way, and this included all the students even if they had not been administered the STAR test at the end of the study. In this case, Fluent Reader overall performed as well as Accelerated Reader. Students that had the Fluent

Fluent Reader Effects on Reading Performance

Reader program performed better on CBM on reading passages 5A and 6A. However, Accelerated Reader performed better than the control condition on Total Reading Time on passage 5A. On the comprehension test, the findings were divided between the Fluent Reader group outperforming Accelerated Reader on the fifth grade passage and Accelerated Reader outperforming Fluent Reader on the third grade passage.

One interpretation of these results at the elementary school level, is that the Fluent Reader program has helped the students read faster as indicated in the CBM, which is standard measure of reading fluency. In addition to increased speed of reading, the students have been able to maintain their level of comprehension as shown by a split in the findings between Fluent Reader and Accelerated Reader on the comprehension measure. On one passage, Accelerated Reader students increased their total reading time more than the Fluent Reader group. If a program is shown to increase speed of reading as measured by CBM, while maintaining comprehension, and is compared to a program that has been shown to be effective in improving reading achievement, this would lead one to believe that Fluent Reader is also a program that will help students increase reading achievement.

Junior High

At the junior high level, all the students in the study were poor readers who had failed the Minnesota State mandated reading test that all students must pass as a requirement for high school graduation. Although these students were seventh graders, they all read below grade level. These poor readers had been assigned to remedial reading classes and by random selection one class was assigned to the Fluent Reader

Fluent Reader Effects on Reading Performance

condition and the other class got regular remedial reading from an experienced teacher. For the junior high level, there were four significant results. One finding was that the students who used Fluent Reader had significantly greater gains in reading speed as measured by Total Reading Time than the students getting remedial reading instruction. An additional finding was that the STAR test results showed that students using Fluent Reader had a higher gain score for scale score, grade equivalent, and NCE. Thus, achievement scores for students who used Fluent Reader improved more than students receiving traditional reading instruction on these measures. Since the Fluent Reader program outperformed a traditional reading instructional method on speed of reading and the STAR Reading test, one might conclude that Fluent Reader also is an effective reading instructional tool at the junior high level.

Fluent Reader Effects on Reading Performance

Overall analysis

Based on the results of this study, the Fluent Reader program is an effective method of reading fluency instruction for readers at the elementary and junior high levels. The Fluent Reader program has been effective in increasing the number of words students read per minute, as well as decreasing total reading time.

Suggestions for Future Research on Fluent Reader.

1. In the future, it would be preferable to find a different control treatment to compare Fluent Reader to, such as Uninterrupted Sustained Silent Reading.
2. Screen all students using the Star Reading Test and eliminate all students who can not read at the second grade level. Students who initially read below this level can not do tasks required by Fluent Reader.
3. All the teachers using the Fluent Reader program need a month of practice before they are fully ready to use the new program. If they have less practice than the amount recommended, it would be like asking a person to drive in New York City traffic during rush hour after only a few days of driving lessons.
4. Have students do CBM but have students take ten multiple choice comprehension questions in order to see if students can decode and comprehend as the same time. The single most important characteristic of fluent reading is the ability to decode and comprehend simultaneously.
5. Have research project manager meet with the teachers as a group once every two weeks to discuss problems and solutions.

Fluent Reader Effects on Reading Performance

6. Monitor teacher and student behavior to guarantee fidelity of treatment. Failure to monitor treatment fidelity can lead to false research results. One might incorrectly infer that the treatment was not effective when in truth the treatment was never tried as it was intended.

References

- Chomsky, C. (1978) When you still can't read in third grade: After decoding, what? In S. J. Samuels (Ed.), *What research has to say about reading instruction*. Newark, Del.: International Reading Association.
- CIERA Report #2-008, March 31,2000.
- Dowhower, S. L. (1987). Effects of repeated reading on second-grade transitional readers' fluency and comprehension. *Reading Research Quarterly*, 22, 389-406.
- Everatt, J., Bradshaw, M. R., & Hibbard, P. B. (1998). Individual difference in reading and eye movement control. In G. Underwood (Ed.), *Eye guidance in reading and scene perception* (pp. 223-242). Oxford, England: Elsevier.
- Everatt J. & Underwood G. (1994). Individual differences in reading subprocesses: Relationships between reading ability, lexical access, and eye movement control. *Language and Speech*, 37, 283-297.
- Fries, C.C. (1962) *Linguistics and reading*. New York: Holt, Rinehart & Winston.
- Huey, E. B. (1908). *The Psychology and Pedagogy of Reading*. The M.I.T. Press.
- James, W. (1890). *The principles of psychology*. New York: Holt.
- LaBerge, D. & Samuels, S.J. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology*, 6, 293-323.
- Logan, G.D. (1997). Automaticity and reading: Perspectives from the instance theory of automatization. *Reading and Writing Quarterly*, 13, 123-146.
- O'Shea, L.J, Sindelar, P.T. (1983). The effects of segmenting written discourse on the reading comprehension of low- and high-performance readers. *Reading Research Quarterly*, 18, 458-465.
- O'Shea, L.J, Sindelar, P.T., & O'Shea, D.J. (1985). The effects of repeated readings and attentional cues on reading fluency and comprehension. *Journal of Reading Behavior*, 17, 129-142.

Fluent Reader Effects on Reading Performance

- O'Shea, L.J, Sindelar, P.T., & O'Shea, D.J. (1987). The effects of repeated readings and attentional cues on reading fluency and comprehension on learning disabled readers. *Learning Disabilities Research*, 2 (2), 103-109.
- Perfetti, C.A., (1985). *Reading Ability*. Oxford University Press.
- Pinnell, G.S., Pikulski, J.J., Wixson, K.K., Campbell, J.R., Gough, P.B., & Beatty, A.S. (1995). *Listening to children read aloud*. Washington DC: Office of Educational Research and Improvement, U. S. Department of Education.
- National Reading Panel (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (National Institutes of Health Pub. No. 00-4769). Washington DC: National Institute of Child Health and Human Development.
- Samuels, S. J. (1979). The method of repeated readings. *The Reading Teacher*, 32, 403-408.
- Samuels, S.J., Miller, N., & Eisenberg, P. (1979). Practice effects on the unit of word recognition. *Journal of Educational Psychology*, 71, 514-520.
- Samuels, S.J., Schermer, N., & Reinking, D. (1992). Reading fluency: Techniques for making decoding automatic. In S. J. Samuels & A. E. Farstrup (Eds.), *What research says about reading instruction* (2nd ed., pp. 124-144). Newark, DE: International Reading Association.
- Schreiber, P.A. On the Acquisition of Reading Fluency. Theoretical Paper No. 82, Wisconsin Research and Development Center for Individualized Schooling, 1980.
- Snow, C.E., Burns, M.S., & Griffin, P. (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Thurlow, R., & van den Broek, P. (1997). Automaticity and inference generation. *Reading and Writing Quarterly*, 13, 165-184.
- Torgesen, J. K. Computers and Cognition in Reading: A Focus on Decoding Fluency. *Exceptional Children*, 1986, vol. 53, No. 2, pp. 157-162.
- Underwood, G., Hubbard, A., & Wilkinson, H., (1990). Eye fixations predict reading comprehension: The relationship between reading skill, reading speed and visual inspection. *Language and Speech*, 33, 69-81.

Fluent Reader Effects on Reading Performance

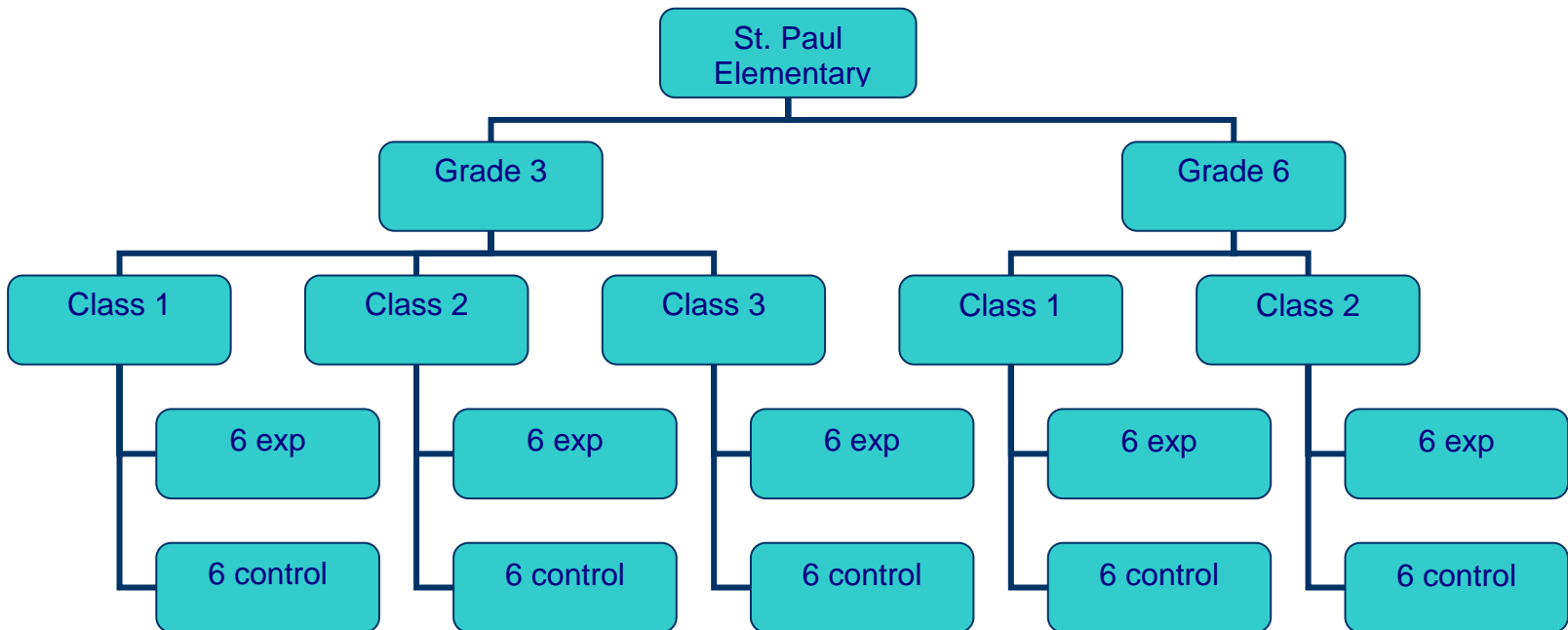
Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. souberman, Eds. & Trans.). Cambridge, MA: Harvard University Press.

Vygotsky, L. (1986). *Thought and Language*. Cambridge MIT Press.

Fluent Reader Effects on Reading Performance

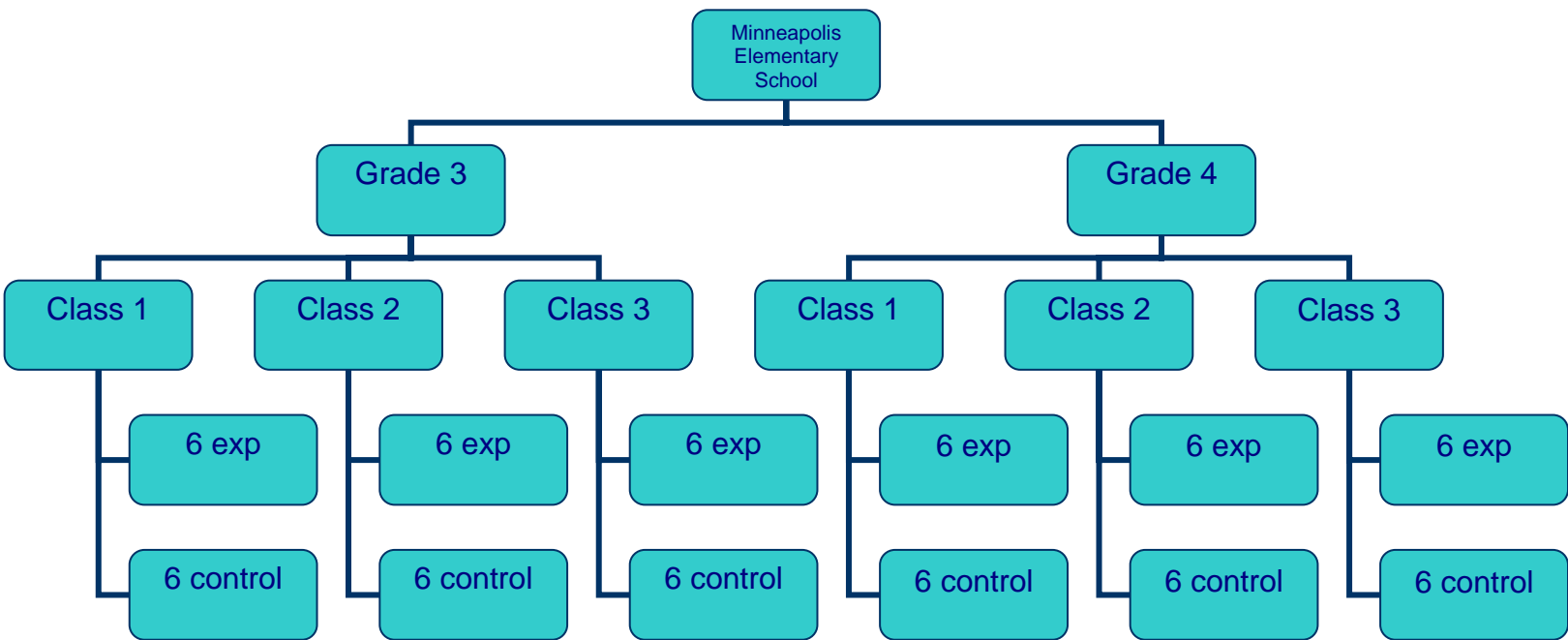
Appendix A-1

Research Design at St. Paul Elementary School



Fluent Reader Effects on Reading Performance
Appendix A-2

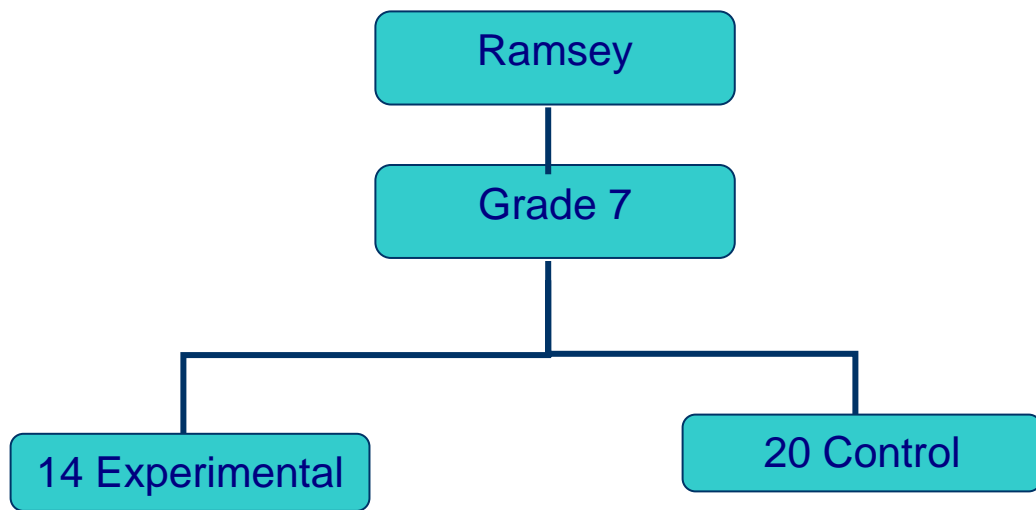
Research Design at Minneapolis Elementary School



Fluent Reader Effects on Reading Performance

Appendix A-3

Research Design at St. Paul Junior High School

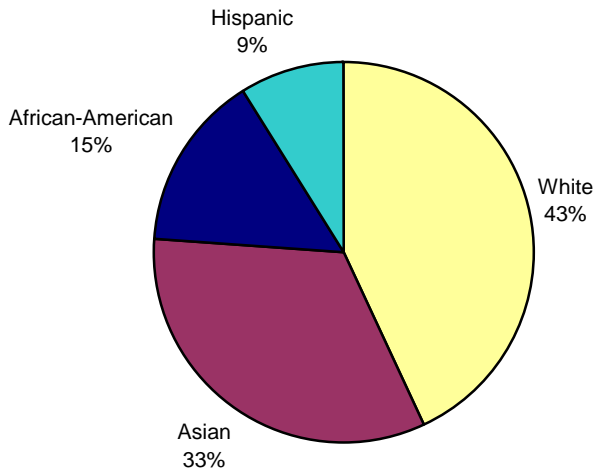


Fluent Reader Effects on Reading Performance

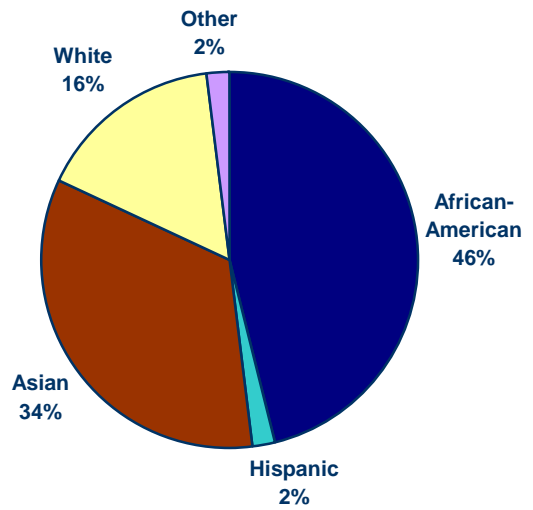
Appendix B

Ethnicity

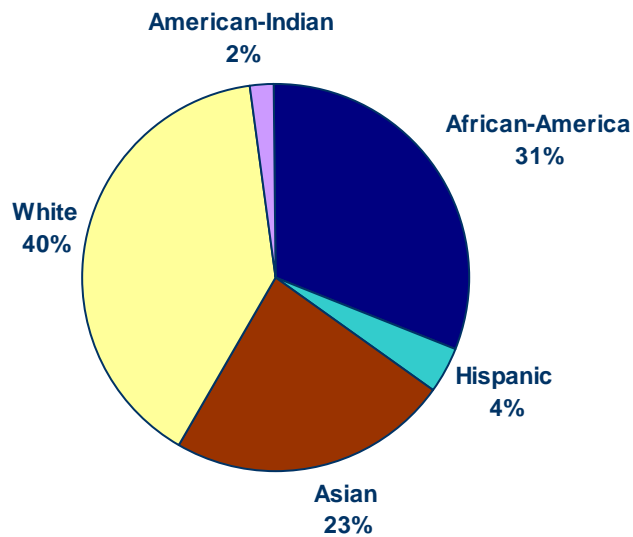
St. Paul Elementary Students



Minneapolis Elementary Students



St. Paul Junior High Students



Fluent Reader Effects on Reading Performance
Appendix C

Administration of Reading Passages

The Assessor will listen to each student read six stories. “Student passage” 3A will be read first and immediately followed by “student questions” 3A (the five question multiple choice quiz). Then, 5A and 6A will be completed in this manner. Upon completion of the last multiple choice quiz, the student will be asked to read student passages 3B, 5B and 6B. These last three readings will be to obtain a word per minute rate, for 60 seconds. There are no quizzes for the last three readings. The stories are labeled “student passage”, and the questions are labeled “student questions”. For each story the student reads, the assessor will follow-along on a scoring sheet that is labeled “assessor passage”.

1. Make sure you are **using the correct passages**. Put the student’s school, teacher, grade and name on each of the assessor passages and student questions pages. You will need two pencils and a watch that displays seconds.
2. **Find a quiet, comfortable place** where you can listen to the student read without interruption. If you are in a rush or your student is eager to engage in another activity, the test will not be accurate.
3. **Hand the student the “student passage”** of the story you are using. You will notice it does not include the numbers along the right side of the story as does the “assessor passage”.
4. The **student is to read aloud** as he or she would normally. Speeding through the passage results in making errors.
5. As you follow along, **record the errors** by discretely marking an “X” through each incorrect word. “X”s are marked through words that are skipped or mispronounced. Ignore extra words spoken by the student.
6. **If the student hesitates more than 3 seconds** on a word, mark an “X” and ask the student to continue, **do not provide the word**.

Fluent Reader Effects on Reading Performance

7. For first three passages:

- a) **at the end of 60 seconds** mark the last whole word attempted by the student by marking a slash (/) at the end of that word.
- b) **If the student does not finish the passage in two and one-half minutes**, stop the student at this time, **mark the spot by circling the last word read**.
- c) **Write down the total time** it took the student to read the whole passage, 2 ½ minutes or less.
- d) **Have student take quiz after each reading**, prior to reading the next passage. **Read questions and answers to students**. Have student circle answer choices. Student cannot look back at passage.

8. For last three passages:

- a) **at the end of 60 seconds** mark the last whole word attempted by the student by marking a slash (/) at the end of that word.

All done, put the two packets in folder – (3 pages of student questions, and 6)

Fluent Reader Effects on Reading Performance

Appendix D

Assessor Script of Student Directions

For the first three stories:

"I would like you to read three stories for me. As you read, I will be making some notes. After each of the first three stories, I will read you some questions. You can circle your answers on your answer sheets. You will not be able to look back at the story, so try to remember what you've read. Try each word. If you come to a word that you do not know, you may skip it and go to the next word. Speeding through the passage results in making errors. Please start here (point to the title on the Student's Copy) and read the story aloud until I tell you to stop. You may start when I say "Begin". Do you have any questions?"

For the last three stories:

"I would like you to read three more stories for me, this time without questions. Try each word. If you come to a word that you do not know, you may skip it and go to the next word. Speeding through the passage results in making errors. Please start here (point to the title on the Student's Copy) and read the story aloud until I tell you to stop. You may start when I say "Begin". Do you have any questions?"

Example:

| | |
|--------------------------------------|----|
| The Visitor | 2 |
| Tap, tap, tap. I was reading a book. | 10 |
| But I kept hearing this noise at the | 18 |
| window. Tap, tap. I began reading | 24 |
| again. Clunk, scrape, tap. I looked | 30 |
| out of the window. It was dark out. | 38 |
| I couldn't see anything. I looked | 44 |
| back at my book. It was hard to find | 53 |
| my place. I found it/ and began to | 61 |
| read. I heard the noise again. | 67 |

Bobby Goes Fishing

Bobby and Grandpa got up early to go fishing. Bobby was tired and thought maybe he'd rather sleep. As soon as he smelled the bacon that Grandpa was cooking in the skillet, Bobby was up and out of bed. Grandpa cracked a few eggs over the hot skillet, flipped some pancakes and before Bobby knew it, they had a feast for breakfast.

While eating breakfast, Bobby asked Grandpa what kind of fish they would catch. "Well, Bobby," said Grandpa, "if we're lucky, we might catch a rainbow trout."

"Wow, do they get really big?" asked Bobby.

"Some do," Grandpa replied, "but mostly, they're just hard to catch because they're so smart." Grandpa then went on to tell Bobby how they would try to fish along the river. He told Bobby there were rules he had to remember. "First, you have to be very quiet. Second, you have to be patient. And, third, you have to be lucky!"

Bobby said, "I feel lucky today!"

"Well, let's get going then," said Grandpa. "Remember to wear your fishing hat. Not only will it keep the sun out of your eyes, but it might bring us luck."

Soon they were in Grandpa's old, red pickup truck and on their way to the river. Bobby knew that today he was going to be lucky.

Bobby Goes Fishing Questions

1. Who made breakfast?
 - a. Grandma
 - * b. Grandpa
 - c. Bobby
 - d. Mom

2. What got Bobby out of bed?
 - a. Grandpa called his name
 - * b. the smell of bacon cooking
 - c. the bright morning sunlight
 - d. the alarm clock

3. Why were the fish hard to catch?
 - * a. they're so smart
 - b. they're not hungry
 - c. there aren't very many of them
 - d. they're using the wrong kind of bait

4. What was one of the rules Bobby had to remember?
 - a. stay alert
 - b. stay close by
 - c. wear long pants
 - * d. be patient

5. What did Grandpa think might bring Bobby luck?
 - a. rabbit's foot
 - b. four leaf clover
 - * c. fishing hat
 - d. fishing rod

Fluent Reader Effects on Reading Performance

School: _____

Teacher _____

Grade _____

Name _____

Pretest Posttest circle one

Bobby Goes Fishing Questions

1. Who made breakfast?
 - a. Grandma
 - b. Grandpa
 - c. Bobby
 - d. Mom

2. What got Bobby out of bed?
 - a. Grandpa called his name
 - b. the smell of bacon cooking
 - c. the bright morning sunlight
 - d. the alarm clock

3. Why were the fish hard to catch?
 - a. they're so smart
 - b. they're not hungry
 - c. there aren't very many of them
 - d. they're using the wrong kind of bait

4. What was one of the rules Bobby had to remember?
 - a. stay alert
 - b. stay close by
 - c. wear long pants
 - d. be patient

5. What did Grandpa think might bring Bobby luck?
 - a. rabbit's foot
 - b. four leaf clover
 - c. fishing hat
 - d. fishing rod

Fluent Reader Effects on Reading Performance
Summer Guests

One summer we had guests in our shed. The only problem was that we didn't know who they were. All we could see of them were signs or clues. We could see two very large holes dug under the shed. We could see some animal footprints around the holes. When we were very quiet, we could hear some rustling noises inside, but we never saw them. Who were our summer guests?

I decided it was time to find out who these guests were. I had a plan. I got a chair and a few snacks. I placed my chair behind a bush. I moved it a little so I could see the hole. Then I sat down for a long wait. I sat very quietly, and it didn't take long. A tiny fur face peeked out of the hole. Then, two more furry faces peeked out. Oops! A furry creature got pushed out of the hole by its brother. It started to walk around. Out came another and another. They started to play with each other. It looked like they were having lots of fun. But what were they? The dark brown fur seemed to cover their shapes. Another creature came. But it was a lot bigger. A large mother Hedgehog waddled out. Now I knew who our summer guests were!

Fluent Reader Effects on Reading Performance
Summer Guests Questions

1. Where did the summer guests live?
 - a. in a tree
 - b. by the wood pile
 - c. in the garden
 - * d. under the shed

2. What clues could be seen near the holes?
 - a. dirt
 - b. wood chips
 - * c. animal footprints
 - d. fur

3. How did the child find out who the guests were?
 - * a. sat very quietly
 - b. got up early to see
 - c. set a trap
 - d. asked his brother

4. What did the child first see?
 - a. mother
 - * b. furry face
 - c. brown nose
 - d. mouse

5. Who pushed the furry creature out of the hole?
 - a. father
 - b. mother
 - a. sister
 - * d. brother

Fluent Reader Effects on Reading Performance

School: _____

Teacher _____

Grade _____

Name _____

Pretest Posttest circle one

Summer Guests Questions

1. Where did the summer guests live?
 - a. in a tree
 - b. by the wood pile
 - c. in the garden
 - d. under the shed

2. What clues could be seen near the holes?
 - a. dirt
 - b. wood chips
 - c. animal footprints
 - d. fur

3. How did the child find out who the guests were?
 - a. sat very quietly
 - b. got up early to see
 - c. set a trap
 - d. asked his brother

4. What did the child first see?
 - a. mother
 - b. furry face
 - c. brown nose
 - d. mouse

5. Who pushed the furry creature out of the hole?
 - a. father
 - b. mother
 - b. sister
 - d. brother

Fluent Reader Effects on Reading Performance

School: _____

Teacher _____

Grade _____

Name _____

Pretest Posttest circle one

| | word count | # of errors |
|---|------------|-------------|
| Class Party | 2 | ___ |
| The sixth grade class at Forest Glenn Elementary school had | 12 | ___ |
| been an especially close group. Most of the students had been | 23 | ___ |
| classmates for six years. They wanted to celebrate graduation together | 33 | ___ |
| before they moved on to different junior high schools. | 42 | ___ |
| Mr. Jacobs, their teacher, suggested that the idea be discussed in | 53 | ___ |
| a formal class meeting. So Alicia Martin, the class president, called the | 65 | ___ |
| meeting to order. "It has been suggested that we sponsor a class party | 78 | ___ |
| for graduation," Alicia began. "We need to talk about your ideas and | 90 | ___ |
| arrive at a decision. Some of the issues we must address include: the | 103 | ___ |
| time and date of the party, the location, food and beverages, | 114 | ___ |
| chaperones, and the cost per student. The floor is now open for | 126 | ___ |
| discussion." | 127 | ___ |
| Susan stood up next to her desk. "I think we should use the last | 141 | ___ |
| day of school to go to the beach for a picnic. We could swim, play | 156 | ___ |
| volleyball and have races. It wouldn't be very expensive." | 165 | ___ |
| Todd volunteered his ideas next. "I agree with Susan," said | 175 | ___ |
| Todd. "If we go to the beach we won't have to spend much money | 189 | ___ |
| decorating a party room. Besides, the weather is so nice, who wants to | 202 | ___ |
| stay inside? I'd rather be outside swimming and playing softball." | 212 | ___ |
| "But the beach is quite a few miles away," said Jenny. "It sounds | 225 | ___ |
| like a good idea, but who's going to drive all of us there? We need to | 241 | ___ |
| figure that out first." | 245 | ___ |

Total Reading Time _____

Class Party

The sixth grade class at Forest Glenn Elementary school had been an especially close group. Most of the students had been classmates for six years. They wanted to celebrate graduation together before they moved on to different junior high schools.

Mr. Jacobs, their teacher, suggested that the idea be discussed in a formal class meeting. So Alicia Martin, the class president, called the meeting to order. “It has been suggested that we sponsor a class party for graduation,” Alicia began. “We need to talk about your ideas and arrive at a decision. Some of the issues we must address include: the time and date of the party, the location, food and beverages, chaperones, and the cost per student. The floor is now open for discussion.”

Susan stood up next to her desk. “I think we should use the last day of school to go to the beach for a picnic. We could swim, play volleyball and have races. It wouldn’t be very expensive.”

Todd volunteered his ideas next. “I agree with Susan,” said Todd. “If we go to the beach we won’t have to spend much money decorating a party room. Besides, the weather is so nice, who wants to stay inside? I’d rather be outside swimming and playing softball.”

“But the beach is quite a few miles away,” said Jenny. “It sounds like a good idea, but who’s going to drive all of us there? We need to figure that out first.”

Class Party Questions

1. What was the name of the elementary school?
 - a. Wild Wood
 - * b. Forest Glenn
 - c. Clear Water
 - d. Lily Lake

2. Why did the class want to have a party?
 - a. one of the students was having a birthday
 - b. Christmas was near
 - * c. they were going to graduate soon
 - d. they had won a school achievement award

3. How was the decision made to have a party?
 - a. classroom parents decided
 - b. teacher decided
 - * c. formal class meeting
 - d. classroom vote

4. What is the name of the class president?
 - a. Jake
 - b. Susan
 - c. Todd
 - * d. Alicia

5. Where did Susan suggest to have the party?
 - a. at the park
 - * b. at the beach
 - c. at the playground
 - d. in the gym

Fluent Reader Effects on Reading Performance

School: _____

Teacher _____

Grade _____

Name _____

Pretest Posttest circle one

Class Party Questions

1. What was the name of the elementary school?
 - a. Wild Wood
 - b. Forest Glenn
 - c. Clear Water
 - d. Lily Lake

2. Why did the class want to have a party?
 - a. one of the students was having a birthday
 - b. Christmas was near
 - c. they were going to graduate soon
 - d. they had won a school achievement award

3. How was the decision made to have a party?
 - a. classroom parents decided
 - b. teacher decided
 - c. formal class meeting
 - d. classroom vote

4. What is the name of the class president?
 - a. Jake
 - b. Susan
 - c. Todd
 - d. Alicia

5. Where did Susan suggest to have the party?
 - a. at the park
 - b. at the beach
 - c. at the playground
 - d. in the gym

Fluent Reader Effects on Reading Performance

School: _____

Teacher _____

Grade _____

Name _____

Pretest Posttest circle one

| errors | word count | # of |
|---|---------------------------------|---------------------------------|
| The Band | 2 | ___ |
| “I’m answering your ad in the school paper. I play electric guitar and I want to play in your group!” explained Michelle. Brian had never considered that a girl might apply and wasn’t sure if he wanted Michelle in the group. “What can you play?” asked Brian. | 13 25 38 49 | ___ ___ ___ ___ |
| “Here, listen to this,” retorted Michelle, who began unpacking her guitar. She plugged the guitar into Brian’s amplifier and began playing. The guys in the band were impressed. “Hey, you’re really good!” shouted Nicky. “Where did you learn to play like that?” | 58 69 80 91 | ___ ___ ___ ___ |
| “My sister’s in a band,” explained Michelle. “She’s pretty good and spends a lot of time with me. Well, can I play with you guys?” | 101 116 | ___ ___ |
| “We’d better talk it over,” snapped Brian, still unsure about having Michelle in the group. The guys huddled in the corner. “What do you think?” Brian asked. | 126 138 143 | ___ ___ ___ |
| “She’s great, let’s invite her in,” said Nicky. | 151 | ___ |
| “But she’s a girl,” complained Brian. | 157 | ___ |
| “So what,” replied Nicky, “She plays terrific electric guitar, and better yet, she wants to be in the group with us.” | 167 178 | ___ ___ |
| And so the boys voted. Michelle won 3 to 0, and the group had a new member for their band. Now the band was ready to perform, and Michelle had the perfect idea for where they should hold their first show, the school talent show. The talent show was only three weeks away, so the band had to work fast. | 193 206 218 230 238 | ___ ___ ___ ___ ___ |

The Band

“I’m answering your ad in the school paper. I play electric guitar and I want to play in your group!” explained Michelle. Brian had never considered that a girl might apply and wasn’t sure if he wanted Michelle in the group. “What can you play?” asked Brian.

“Here, listen to this,” retorted Michelle, who began unpacking her guitar. She plugged the guitar into Brian’s amplifier and began playing. The guys in the band were impressed. “Hey, you’re really good!” shouted Nicky. “Where did you learn to play like that?”

“My sister’s in a band,” explained Michelle. “She’s pretty good and spends a lot of time with me. Well, can I play with you guys?”

“We’d better talk it over,” snapped Brian, still unsure about having Michelle in the group. The guys huddled in the corner. “What do you think?” Brian asked.

“She’s great, let’s invite her in,” said Nicky.

“But she’s a girl,” complained Brian.

“So what,” replied Nicky, “She plays terrific electric guitar, and better yet, she wants to be in the group with us.”

And so the boys voted. Michelle won 3 to 0, and the group had a new member for their band. Now the band was ready to perform, and Michelle had the perfect idea for where they should hold their first show, the school talent show. The talent show was only three weeks away, so the band had to work fast.

Fluent Reader Effects on Reading Performance

The Band Questions

1. How did Michelle find out about the group?
 - * a. school paper
 - b. bulletin board
 - c. local paper
 - d. best friend

2. What did Michelle plug her guitar into?
 - a. recorder
 - * b. amplifier
 - c. speaker
 - d. stereo

3. How did Michelle learn to play?
 - a. brother
 - b. father
 - c. neighbor
 - * d. sister

4. Why does Nicky want to let Michelle in the band?
 - a. she never criticized their playing
 - * b. she wants to be in the group
 - c. she is smart
 - d. she is nice

5. How did they decide to let Michelle join the band?
 - a. Nicky decided
 - b. coin toss
 - * c. the boys voted
 - d. the band leader decided

Fluent Reader Effects on Reading Performance

School: _____

Teacher _____

Grade _____

Name _____

Pretest Posttest circle one

The Band Questions

1. How did Michelle find out about the group?
 - a. school paper
 - b. bulletin board
 - c. local paper
 - d. best friend

2. What did Michelle plug her guitar into?
 - a. recorder
 - b. amplifier
 - c. speaker
 - d. stereo

3. How did Michelle learn to play?
 - a. brother
 - b. father
 - c. neighbor
 - d. sister

4. Why does Nicky want to let Michelle in the band?
 - a. she never criticized their playing
 - b. she wants to be in the group
 - c. she is smart
 - d. she is nice

5. How did they decide to let Michelle join the band?
 - a. Nicky decided
 - b. coin toss
 - c. the boys voted
 - d. the band leader decided

Fluent Reader Effects on Reading Performance

School: _____

Teacher _____

Grade _____

Name _____

Pretest Posttest circle one

| | word count | # of errors |
|---|--|--|
| Camping | 1 | ___ |
| Joey and James were camping out alone for the first time. Joey was happy about their choice of the campground. The park had plenty of woods, hills, a lake and a trout stream. Joey planned to go fishing the next day. James, however, was looking forward to swimming in the lake. He was hoping to try out his new snorkel, mask and fins. | 13 25 39 50 64 | ___ ___ ___ ___ ___ |
| That night they cooked a meal over the campfire. James was in charge of the hotdogs and baked potatoes. Meanwhile, Joey made apple crisp for dessert. Both boys thought they were doing a pretty good job until James burned the hotdogs. Joey laughed so hard he knocked the apple crisp into the fire. Oh well, they thought, maybe breakfast would be better. | 76 87 100 112 123 126 | ___ ___ ___ ___ ___ ___ |
| Soon it was time to sleep. It was getting late and the night air was cool. After putting the fire out, both boys climbed into their tent and zipped up their sleeping bags. It won't be hard to fall asleep, thought Joey, as his brother began to snore. However, a few minutes later a loud, crackling noise woke both boys. "What was that?" exclaimed James. "I don't know," said Joey cautiously, "but we'd better look." Joey found his flashlight and quickly climbed out of the tent. His brother was close behind. | 140 153 166 178 189 199 211 217 | ___ ___ ___ ___ ___ ___ ___ ___ |
| Outside the tent they continued to hear the strange noise. It sounded like it came from the water. Joey turned to his brother and said, "I think it's coming this way." | 228 241 248 | ___ ___ ___ |

Total Reading Time _____

Fluent Reader Effects on Reading Performance
Camping

Joey and James were camping out alone for the first time. Joey was happy about their choice of the campground. The park had plenty of woods, hills, a lake and a trout stream. Joey planned to go fishing the next day. James, however, was looking forward to swimming in the lake. He was hoping to try out his new snorkel, mask and fins.

That night they cooked a meal over the campfire. James was in charge of the hotdogs and baked potatoes. Meanwhile, Joey made apple crisp for dessert. Both boys thought they were doing a pretty good job until James burned the hotdogs. Joey laughed so hard he knocked the apple crisp into the fire. Oh well, they thought, maybe breakfast would be better.

Soon it was time to sleep. It was getting late and the night air was cool. After putting the fire out, both boys climbed into their tent and zipped up their sleeping bags. It won't be hard to fall asleep, thought Joey, as his brother began to snore. However, a few minutes later a loud, crackling noise woke both boys. "What was that?" exclaimed James. "I don't know," said Joey cautiously, "but we'd better look." Joey found his flashlight and quickly climbed out of the tent. His brother was close behind.

Outside the tent they continued to hear the strange noise. It sounded like it came from the water. Joey turned to his brother and said, "I think it's coming this way."

Fluent Reader Effects on Reading Performance
Camping Questions

1. What did the park have plenty of?
 - a. forests, rivers, ponds and hills
 - * b. woods, hills, a lake and a trout stream
 - c. trees, hills, a lake and ponds
 - d. orchards, trout stream, a lake and hills

2. What made Joey laugh?
 - * a. burned hotdogs
 - b. burned marshmallows
 - c. burned apple crisp
 - d. burned baked potatoes

3. What did the boys do after putting the fire out?
 - a. they went searching for fire wood
 - b. they set up their tent
 - * c. they climbed into their tent
 - d. they told ghost stories

4. What did the boys hear?
 - a. a loud, crunching noise
 - b. a loud, cackling noise
 - c. a loud, crinkling noise
 - * d. a loud, crackling noise

5. Where did the sound come from?
 - a. the wind
 - b. the woods
 - * c. the water
 - d. the wild

Fluent Reader Effects on Reading Performance

School: _____

Teacher _____

Grade _____

Name _____

Pretest Posttest circle one

Camping Questions

1. What did the park have plenty of?
 - a. forests, rivers, ponds and hills
 - b. woods, hills, a lake and a trout stream
 - c. trees, hills, a lake and ponds
 - d. orchards, trout stream, a lake and hills

2. What made Joey laugh?
 - a. burned hotdogs
 - b. burned marshmallows
 - c. burned apple crisp
 - d. burned baked potatoes

3. What did the boys do after putting the fire out?
 - a. they went searching for fire wood
 - b. they set up their tent
 - c. they climbed into their tent
 - d. they told ghost stories

4. What did the boys hear?
 - a. a loud, crunching noise
 - b. a loud, cackling noise
 - c. a loud, crinkling noise
 - d. a loud, crackling noise

5. Where did the sound come from?
 - a. the wind
 - b. the woods
 - c. the water
 - d. the wild

Fluent Reader Effects on Reading Performance

Student Questions – 6A

Fluent Reader – Spring 2003

School: _____

Teacher _____

Grade _____

Name _____

Pretest Posttest circle one

| | word count | # of errors |
|--|------------|-------------|
| The Haunted House | 3 | ___ |
| “How do you know this house is haunted?” asked Angie. | 13 | ___ |
| “There’s no such thing as a haunted house, Jessica assured her. “Then | 25 | ___ |
| what just made that noise?” Jessica peered into the corner where they | 37 | ___ |
| had both heard a clicking noise. “It looks like an old grandfather | 49 | ___ |
| clock. It must still be running.” “It looks to me like this place has been | 64 | ___ |
| abandoned for years!” Angie commented. | 69 | ___ |
| Suddenly, Angie felt alone in the room. A chill went up her | 81 | ___ |
| spine. “Jessica!” she called, “remember you promised we’d stay | 90 | ___ |
| together.” There was no answer. “Jessica, the five minutes are up. I’m | 102 | ___ |
| leaving!” Still, there was no response. She could hardly leave now | 113 | ___ |
| without Jessica. What if she were in danger. Angie walked cautiously | 124 | ___ |
| toward the back of the house. | 130 | ___ |
| “Hey Angie,” she heard, “look at this.” There was Jessica | 140 | ___ |
| coming out from behind a built-in shelf on the wall. “It’s a secret | 153 | ___ |
| passage-way. I only followed it part of the way and then I thought I’d | 167 | ___ |
| better come back for you. Let’s see where it goes.” Angie had lost | 180 | ___ |
| some of her fear and was enticed by the idea of a secret passage-way. | 194 | ___ |
| Both of the girls entered the passage-way that led down several | 205 | ___ |
| steps. It was cool, damp and hard to see. However, both could see a | 219 | ___ |
| glimmer of light ahead. As Jessca led the way down the tunnel, they | 232 | ___ |
| both heard a growling noise. “Oh, no,” thought Angie, “now what?” | 243 | ___ |

The Haunted House

“How do you know this house is haunted?” asked Angie.
“There’s no such thing as a haunted house, Jessica assured her. “Then what just made that noise?” Jessica peered into the corner where they had both heard a clicking noise. “It looks like an old grandfather clock. It must still be running.” “It looks to me like this place has been abandoned for years!” Angie commented.

Suddenly, Angie felt alone in the room. A chill went up her spine. “Jessica!” she called, “remember you promised we’d stay together.” There was no answer. “Jessica, the five minutes are up. I’m leaving!” Still, there was no response. She could hardly leave now without Jessica. What if she were in danger. Angie walked cautiously toward the back of the house.

“Hey Angie,” she heard, “look at this.” There was Jessica coming out from behind a built-in shelf on the wall. “It’s a secret passage-way. I only followed it part of the way and then I thought I’d better come back for you. Let’s see where it goes.” Angie had lost some of her fear and was enticed by the idea of a secret passage-way. Both of the girls entered the passage-way that led down several steps. It was cool, damp and hard to see. However, both could see a glimmer of light ahead. As Jessica led the way down the tunnel, they both heard a growling noise. “Oh, no,” thought Angie, “now what?”

Fluent Reader Effects on Reading Performance
The Haunted House Questions

1. What was Angie's comment about the house?
 - a. looks like it's time to go in
 - b. looks like a witch lives there
 - * c. looks like it's been abandoned for years
 - d. looks like it needs to be repaired

2. What happened when Angie felt alone in the room?
 - * a. a chill went up her spine
 - b. a wind howled
 - c. ghosts seemed to appear
 - d. the door squeaked

3. Which way did Angie walk?
 - a. up to the attic
 - b. down to the basement
 - c. toward the neighbors
 - * d. toward the back of the house

4. How far did they follow the passage-way?
 - a. to the very end
 - b. to the third corner
 - * c. part of the way
 - d. until they saw the light

5. How far did the passage-way lead down?
 - a. to the bottom
 - * b. several steps
 - c. twelve steps
 - d. until the broken step

Fluent Reader Effects on Reading Performance

School: _____

Teacher _____

Grade _____

Name _____

Pretest Posttest circle one

The Haunted House Questions

1. What was Angie's comment about the house?
 - a. looks like it's time to go in
 - b. looks like a witch lives there
 - c. looks like it's been abandoned for years
 - d. looks like it needs to be repaired

2. What happened when Angie felt alone in the room?
 - a. a chill went up her spine
 - b. a wind howled
 - c. ghosts seemed to appear
 - d. the door squeaked

3. Which way did Angie walk?
 - a. up to the attic
 - b. down to the basement
 - c. toward the neighbors
 - d. toward the back of the house

4. How far did they follow the passage-way?
 - a. to the very end
 - b. to the third corner
 - c. part of the way
 - d. until they saw the light

5. How far did the passage-way lead down?
 - a. to the bottom
 - b. several steps
 - c. twelve steps
 - d. until the broken step